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10/562,453	01/13/2006	Toshio Takeshita	282057US6PCT	3508
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
KWON, ASHLEY M				
ART UNIT		PAPER NUMBER		
4111				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

10/562,453

**Applicant(s)**

TAKESHITA ET AL.

**Examiner**

ASHLEY KWON

**Art Unit**

4111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/DE)  
Paper No(s)/Mail Date 3/27/06, 4/23/08, 7/2/08, 9/25/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_



## DETAILED ACTION

### *Specification*

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. For example, in claim 17 "**said** chargeable battery section" does not have antecedent basis. Furthermore, in claims 18 and 27, it is unclear which end of the battery-side terminal is the "**opposite** end portion". Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

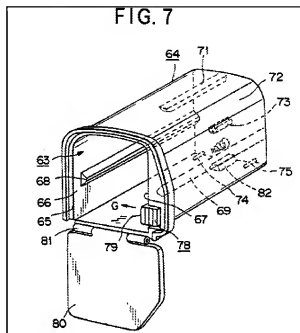
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

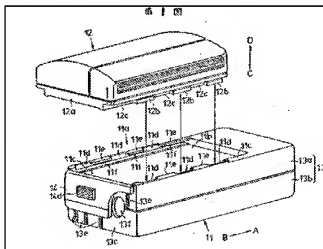
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui et al. (US Pat. No. 5,626,979) (hereinafter "Mitsui") in view of Victor Company of Japan, Limited (Laid-open No. Hei 1-155654) (hereinafter "Victor").



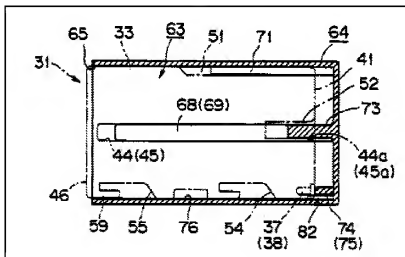


Mitsui fails to teach **three or more** engaging pieces at portions on both sides in a width direction of said case. However, Victor teaches a battery pack mounting structure in which the bottom portion of a battery pack has a plurality of engagement protrusions (12b) protruding on either side (see pg. 6 of provided translation "Battery Pack Mounting Device"; see fig. 1). Therefore it would have been obvious to a person of ordinary skill in the art to use three engaging pieces instead of two.



Regarding claims 1 and 14, Mitsui also fails to teach a convex portion projecting in the length direction from an end surface of the case and extending in the width direction along the end surface of the case. However, Mitsui teaches an engagement boss (73) projecting in the length direction from an end surface of the case (64) and extending in the width direction along the end surface of the case. The engagement boss on the battery loading section of the electronic device engages hole 52 in the housing unit 33 (see fig. 12). Although the convex portion is on the battery loading section instead of the housing unit as taught by applicant, the reversal of parts is obvious. Therefore it would be obvious to a person of ordinary skill in the art to place the convex portion on the housing unit instead of the case.

FIG. 12



Regarding claim 2, Mitsui teaches the battery apparatus as claimed in claim 1, wherein: said battery side terminal (electrode terminal 37, 38) is provided at an end portion of said case in said length direction (see fig. 1). Victor teaches that two of said plurality of engaging pieces are provided on said case at a portion nearer the end portion in said length direction (see fig. 6). However, Victor fails to teach that another one of the engaging pieces is provided at a portion close to the engaging piece provided nearer the end portion of said case where said battery-side terminal is located. However, a person of ordinary skill in the art would know that the battery-side terminal would have to support more weight and it would be preferable to have the middle engaging piece slightly closer to the battery-side terminal end. Therefore it would be obvious to place the middle engaging piece closer to the batter-side terminal end.

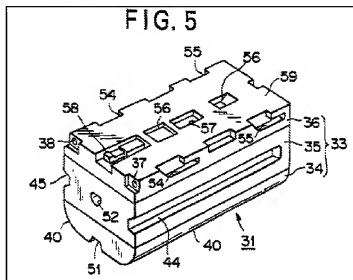
Regarding claim 3, both Mitsui *and* Victor teach the battery apparatus as claimed in claim 1, wherein when the battery apparatus is attached to said battery mounting section, movement of said battery apparatus toward said mounting surface is restricted by mating the bottom surface of said case with the mounting surface of said battery mounting section, and movement of the battery apparatus in the direction away from the mounting surface is restricted by engaging the pieces with the engaging claws (see fig. 12 and 1 respectively) (Mitsui: see col. 10, lines 4-6; Victor: see pg. 3 of provided translation "Battery Pack Mounting Device").

Regarding claim 4, both Mitsui *and* Victor teach the battery apparatus as claimed in claim 1, wherein: said case includes a main body portion (Mitsui: upper casing half, 34, and mid casing half, 35; see fig. 1; Victor: see fig. 1) extending in the length



direction with a uniform size in said width direction, and a bottom portion (*Mitsui*: terminal mounting plate, 36; see fig. 1; *Victor*: bottom portion, 12a; see fig. 1) provided at one of thickness directions at a central portion in the width direction of said main body portion and extending in said length direction with a smaller width size than the width of said bottom portion, said bottom surface is formed with a surface of said bottom portion, said plurality of engaging pieces are formed by projecting from said bottom surface portion at both sides in said width direction (*Mitsui*: see fig. 5 ; *Victor*: see fig. 1), a plurality of concave portions extending in said length direction are formed by said respective engaging pieces (*Mitsui*: see fig. 5 ; *Victor*: recess, 12c; see fig. 1); side surfaces of said bottom surface positioned at both sides in said width direction; and a surface where said main body portion is facing the side surface of the bottom surface, and each of said respective engaging claws engages with said engaging piece by being inserted into each of said concave portions (*Mitsui*: see col. 10, lines 4-6; *Victor*: see pg. 6 of provided translation "Battery Pack Mounting Device").

Regarding claims 6 and 13, *Mitsui* teaches the battery apparatus as claimed in claims 4 and 11 respectively, wherein: at least one of said plurality of concave portions includes a stopper barrier for blocking an end portion in the length direction of the concave portion. The terminal mounting plate, 36, includes a structure that blocks an end portion in the length direction of the concave portion (see fig. 5).



Regarding claim 7, Mitsui teaches the battery apparatus as claimed in claim 1, wherein: said engaging pieces are provided at both side portions in the width direction at the bottom surface of said case (see fig. 5).

Regarding claim 8, Mitsui teaches an electronic device having a battery mounting section (battery loading section, 63; see fig. 7) on which a battery apparatus is attached, wherein: said battery apparatus includes a case having a width, a thickness and a length; a battery cell (rechargeable cell, 1) housed in the inside of said case; a bottom surface (terminal mounting plate, 36; see fig. 5) positioned at one side in a direction of said thickness of said case; and a battery-side terminal (electrode terminal 37, 38) disposed at a surface of said case and electrically connected to said battery cell, engaging pieces (engaging grooves, 54, 55) extending in a direction of said length while projecting outwardly in a direction of said width are disposed at regular intervals in said length direction at portions on both sides in said width direction of the case. Mitsui fails

to teach **three or more** engaging pieces at portions on both sides in a width direction of said case. However, Victor teaches a battery pack mounting structure in which the bottom portion of a battery pack has a plurality of engagement protrusions (12b) protruding on either side (see pg. 6 of provided translation "Battery Pack Mounting Device"; see fig. 1). Therefore it would have been obvious to a person of ordinary skill in the art to use three engaging pieces instead of two.

Mitsui also teaches said battery mounting section comprising: a mounting section-side terminal (coupling pins 74, 75; see fig. 9) making contact with said battery-side terminal; and a mounting surface (bottom surface, 76) with which said bottom surface is mated, said mounting surface has a width of a dimension corresponding to the width of said case, and a length of a dimension greater than the length of said case (see fig. 12), and at portions on both sides in a width direction of said mounting surface, said battery mounting section engaging claws (engaging pieces) are configured to engage said engaging pieces and to position said case in the thickness direction on said mounting surface by matching the width direction and the length direction of said case with the width direction and the length direction of said mounting surface (see col. 10, lines 4-6; see fig. 12), and to mate the bottom surface of said case with said mounting surface, are disposed in the number corresponding to that of said engaging pieces.

Regarding claim 9, Mutsui teaches the electronic device as claimed in claim 8, wherein: said battery-side terminal is provided at an end portion of said case in said length direction. Victor teaches that two of said plurality of engaging pieces are

provided on said case at a portion nearer the end portion in said length direction (see fig. 6). However, Victor fails to teach another one of the engaging pieces is provided at a portion close to the engaging piece provided nearer the end portion of said case where said battery-side terminal is located. However, a person of ordinary skill in the art would know that the battery-side terminal would have to support more weight and it would be preferable to have the middle engaging piece slightly closer to the battery-side terminal end. Therefore it would be obvious to place the middle engaging piece closer to the batter-side terminal end.

Mitsui teaches that said mounting section-side terminal is provided at an end portion of said mounting surface in said length direction. Victor teaches that two of said plurality of engaging claws are provided at a portion nearer the end portion of said mounting surface in the length direction. However Victor does not teach that another one of the engaging claws is provided at a portion close to the engaging claw provided nearer the end portion of said mounting surface where the battery- side terminal is located. However, it would be obvious to a person of ordinary skill in the art that the position of the middle engaging claw would correspond to the middle engaging piece.

Regarding claim 10, both Mitsui *and* Victor teach the battery apparatus as claimed in Claim 8, wherein: movement of said battery apparatus toward said mounting surface is restricted by mating the bottom surface of said case with the mounting surface of said battery mounting section, and movement of the battery apparatus in a direction away from the mounting surface is restricted by engaging the pieces with the

engaging claws (see fig. 12 and 1 respectively) (*Mitsui*: see col. 10, lines 4-6; *Victor*: see pg. 3 of provided translation "Battery Pack Mounting Device").

Regarding claim 11, both *Mitsui* and *Victor* teach the battery apparatus as claimed in Claim 8, wherein: said case includes a main body portion (*Mitsui*: upper casing half, 34, and mid casing half, 35; see fig. 1; *Victor*: see fig. 1) extending in the length direction with a uniform size in said width direction, and a bottom portion (*Mitsui*: terminal mounting plate, 36; see fig. 1; *Victor*: bottom portion, 12a; see fig. 1) provided at one of thickness directions at a central portion in the width direction of said main body portion and extending in said length direction with a smaller width size than the width of said bottom portion, said bottom surface is formed with a face of said bottom portion, said plurality of engaging pieces are formed by projecting from said bottom surface portion at both sides in said width direction (*Mitsui*: see fig. 5 ; *Victor*: see fig. 1), a plurality of concave portions (*Mitsui*: see fig. 5 ; *Victor*: recess, 12c; see fig. 1) extending in said length direction are formed by said respective engaging pieces; side surfaces of said bottom surface positioned at both sides in said width direction; and a surface where said main body portion is facing the side surface of the bottom surface, and said engaging claws engages with said engaging piece by being inserted into each of said concave portions (*Mitsui*: see col. 10, lines 4-6; *Victor*: see pg. 6 of provided translation "Battery Pack Mounting Device").

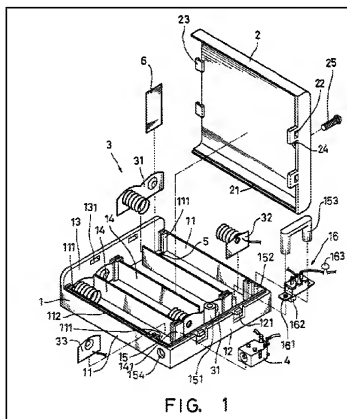
Regarding claims 15 and 16, Takeshita teaches the battery apparatus as cited in claim 1, further comprising: an identification portion including a recess (discrimination recess, 30) having a size based on an electrical characteristic of the battery, the recess

configured to receive a projection (discriminating projection, 73) of the battery mounting section having a size based on a desired electrical characteristic for the electronic device, in order to determine whether or not the battery loading device is an appropriate battery loading device for the battery pack (see col. 5, lines 55-58). This claim is considered a product-by-process claim where the determination of patentability is based upon the product or apparatus structure itself. The patentability of a product or apparatus does not depend on its method of production or formation. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (see MPEP § 2113).

Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui in view of Victor as applied to claims 1-4, 6-11, and 15-16 above, and further in view of Huang (US Pat. Pub. 2003/0027042).

Regarding claim 5 and 12, Mitsui in view of Victor teaches the battery apparatus as claimed in claims 4 and 11 respectively, but they do not teach that a convex portion projecting outwardly in said width direction is provided at a side face of the bottom portion where at least two of the engaging pieces among the plurality of engaging pieces are positioned, and said convex portion is formed with a smaller projecting size than said engaging piece, and in a condition where said engaging claw engages with said engaging piece, said engaging claw and said convex portion are in contact so that

the position of the battery apparatus in the width direction of the case is determined in said battery mounting section. However, Huang teaches an engaging hook, 23, which inherently contains a convex portion (the hook portion) as seen in fig. 1. Although Huang does not teach that the convex portion is formed with a smaller projecting size than said engaging piece, the change in form or shape, without any new or unexpected results, is an obvious engineering design (see MPEP § 2144.04). Furthermore, the size of an article is not a matter of invention (see MPEP § 2144.04). Therefore, with the combined teachings of Mitsui, Victor, and Huang, it would have been obvious to a person of ordinary skill in the art that an engaging claw could contain a convex portion, the two being in contact so that the position of the battery apparatus in the width direction of the case is determined in said battery mounting section.



Claims 17-18, 20-27, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita et al. (US Pat. No 6,521,370) (hereinafter "Takeshita") in view of Victor.

Regarding claim 17, Takeshita teaches a battery apparatus having a case (casing, 19) having a width, a thickness and a length; a battery cell disposed at the inside of said case; and a battery-side terminal (output terminals 21, 22) disposed at a surface of side case and connected to a chargeable battery section, said battery apparatus comprising: engaging pieces (guide grooves, 26) at portions on both sides in a width direction of said case which extend in said length direction while projecting outwardly in said width direction, said engaging pieces configured to engage claws (guide projections, 47) of a battery mounting section and position said case at a position in a thickness direction of said case at said battery mounting section, said engaging pieces disposed at spaced intervals in a length direction, wherein a cutout portion (first and second lock recesses 38,39) is formed in an end of a bottom portion of the case, the cutout portion configured to receive a locking device (lock pawl 79; see col. 9, lines 50-62) of the battery mounting section (see figs. 5 and 6).





Regarding claims 18 and 27, applicant does not make clear which end portion is the "opposite end portion". Assuming that applicant meant "an end portion" as recited in claim 2, Takeshita teaches the battery apparatus as cited in claims 17 and 26 respectively, wherein the battery-side terminal is provided at an end portion in the length direction of the bottom portion (see fig. 5).

Regarding claims 20 and 21, Takeshita does not teach a machine name plate located in a recess portion inside the bottom portion, and including a positioning groove receiving the convex portion of the recess portion. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a recessed portion of the battery in order to inform the user of the type of battery system that is used in the battery pack. One of ordinary skill in the art would find it obvious to add a positioning groove to the nameplate in order to secure the name plate onto the battery. Therefore it would have been obvious to include a nameplate on a recessed portion inside the bottom portion, including a positioning groove for receiving the convex portion of the recess portion.

Regarding claims 22-23 and 29-30, Takeshita teaches the battery apparatus as cited in claims 17 and 24 respectively, further comprising: an identification portion including a recess (discrimination recess, 30) having a size based on an electrical characteristic of the battery, the recess configured to receive a projection (discriminating projection, 73) of the battery mounting section having a size based on a desired electrical characteristic for the electronic device, in order to determine whether or not the battery loading device is an appropriate battery loading device for the battery pack

(see col. 5, lines 55-58). This claim is considered a product-by-process claim where the determination of patentability is based upon the product or apparatus structure itself. The patentability of a product or apparatus does not depend on its method of production or formation. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (see MPEP § 2113). The cited prior art teaches all of the positively recited structure of the claimed apparatus. The Courts have held that a statement of intended use in an apparatus claim fails to distinguish over a prior art apparatus. See *In re Sinex*, 309 F.2d 488, 492, 135 USPQ 302, 305 (CCPA 1962). The Courts have held that the manner of operating an apparatus does not differentiate an apparatus claim from the prior art, if the prior art apparatus teaches all of the structural limitations of the claim. See *Ex Parte Masham*, 2 USPQ2d 1647 (BPAI 1987). The Courts have held that apparatus claims must be structurally distinguishable from the prior art in terms of structure, not function. See *In re Danley*, 120 USPQ 528, 531 (CCPA 1959); and *Hewlett-Packard Co. V. Bausch and Lomb, Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (see MPEP §§ 2114 and 2173.05(g)).

Regarding claim 24, Takeshita teaches a battery apparatus having a case (casing, 19) having a width, a thickness and a length; a battery cell disposed at the inside of said case; and a battery-side terminal (output terminals 21, 22) disposed at a surface of side case and connected to a chargeable battery section, said battery apparatus comprising: engaging pieces (guide grooves, 26) at portions on both sides in

a width direction of said case which extend in said length direction while projecting outwardly in said width direction, said engaging pieces configured to engage claws (guide projections, 47) of a battery mounting section and position said case at a position in a thickness direction of said case at said battery mounting section, said engaging pieces disposed at spaced intervals in a length direction,

Regarding claims 24 and 25, Takeshita does not teach a machine name plate located on a recess portion inside the bottom portion, and including a positioning groove receiving the convex portion of the recess portion. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a recessed portion of the battery in order to inform the user of the type of battery system that is used in the battery pack. One of ordinary skill in the art would find it obvious to add a positioning groove to the nameplate in order to secure the name plate onto the battery. Therefore it would have been obvious to include a nameplate on a recessed portion inside the bottom portion, including a positioning groove for receiving the convex portion of the recess portion.

Regarding claim 26, Takeshita teaches the battery apparatus as cited in claim 24, wherein an end of the bottom portion of the case includes a cutout portion (first and second lock recess 38,39), the cutout portion configured to receive a locking device (lock pawl, 79) of the battery mounting section (see fig. 5 and 6).

Claims 19 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita in view of Victor as applied to claims 17-18, 20-27, and 29-30 above, and further in view of Mitsui.

Regarding claims 19 and 28, Takeshita in view of Victor teaches the battery apparatus as cited in claim 17 and 24, but does not teach a convex portion projecting in the length direction from an end surface of the case and extending in the width direction along the end surface of the case. Mitsui also fails to teach a convex portion projecting in the length direction from an end surface of the case and extending in the width direction along the end surface of the case. However, Mitsui teaches an engagement boss (73) projecting in the length direction from an end surface of the case (64) and extending in the width direction along the end surface of the case. The engagement boss on the battery loading section of the electronic device engages hole 52 in the housing unit 33 (see fig. 12). Although the convex portion is on the battery loading section instead of the housing unit as taught by applicant, the reversal of parts is obvious. Therefore it would be obvious to a person of ordinary skill in the art to place the convex portion on the housing unit instead of the case.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHLEY KWON whose telephone number is (571)270-7865. The examiner can normally be reached on Monday to Friday 7:30 - 5pm EST with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sines can be reached on (571) 272-1263. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AK

/Brian J. Sines/

**Supervisory Patent Examiner, Art Unit 4111**